Amendments to the Drawings

Please enter the two (2) sheets of replacement drawings submitted herewith.

REMARKS

Claims 1-42 are pending in this application. Claim 42 is allowed. Dependent claims 20, 21 and 38-41 are allowable if amended to independent form. Claims 1-19 and 22-37 stand rejected under 35 U.S.C. § 102(b) as being anticipated either by U.S. Patent No. 3,820,375 to Koski, U.S. Patent No. 2,774,408 to Franck or PCT Publication No. WO 09/13992 A1 to Ehrke. Applicant respectfully requests reconsideration of the rejections.

Amendments to Specification and Drawings

The specification and drawings have been amended to make the references to the parts of the disclosed embodiments consistent throughout. The amendment of the reference numeral '2b' used for the screws that secure the chuck clamp 10 to the housing 2 has been made because that reference numeral is also used to reference the screws used to secure the boss 9 at the opposite end of the housing and because, in Figure 1 no reference numeral is given to the screws used to secure the chuck clamp to the housing. Figure 1 has been amended to include the reference numeral 2d. In Figure 2, the reference numeral 2b used to indicate the screw holding the chuck clamp 10 to the housing 2 has been changed to 2d to be consistent with the above-described amendment of the specification and because the reference numeral 2b is already used in Figure 1 to refer to the holes at the rear of the housing 2. Additionally, the use of the reference numerals 4b and 4c has been reversed so as to be consistent with the description and Figure 1. The reference numeral 5a has been deleted; since it is supposed to be for the outer cylindrical surface of the piston 5 (see Figure 1 and the specification, page 10, lines 7-9). No new matter has been added by any of the foregoing amendments.

Claim Amendments

Claims 1-41 are canceled without prejudice.

Independent claim 42 has been amended to delete the recitation that the housing is connectable to a source of pressurised fluid. Since this feature was not required in original claim 1 and on page 6 of the specification in lines 1 to 3 it is disclosed that the pistons may be driven by a mechanical cable or hydraulic screw arrangement, this does not add matter to the application. Applicant submits that claim 42 remains allowable over the prior art.

A new independent claim, claim 53, has been added. The features of this claim are to be found in the specification as follows:

> a housing connectable to a power source – see the housing 2 in the drawings and page 8, lines 17 to 22 as giving example of connectability to a power source in the form of a hydraulic pump 14;
>
> a clamping device disposed in said housing for releasably clamping said pipe and defining a die for receiving said end of said pipe – see the chuck 3 and surface 3c shown in Figures 2 and 3;
>
> a piston slidable in said housing and driven by the power source, the piston for applying a force to said clamping device to cause said clamping device to clamp said pipe – see the piston 4 in Figure 3 and page 12, lines 142 to 14 of the specification; and
>
> a tool carrier insertable into said housing through a tool carrier receiving aperture to bring a forming tool carried thereon into line with said die – see the tool holder 3, windows 2c and original claim 34.

New claims 43-52 and 54-62, depending from claims 42 and 53, respectively, have also been added. Support for these claims may be found in the specification as follows:

Claims 43 and 54 – for an example of multiple tool holding stations see the tool holding stations 7b in Figure 1;

Claims 44 and 55 – see the parts 5c in Figure 1 that engage in the groove 7a in the tool carrier such that the tool carrier can slide on the parts 5c;

Claims 45 and 56 – for an example of a locating mechanism see the detent 5d and detent receiving recess 7c described on page 10 of the specification in lines 15 to 21;

Claims 46 and 57 – see page 12, lines 9 to 17 of the specification for a description of the chuck clamp 10 action on the three jaw chuck 3 to close the jaws of the chuck onto the pipe 11;

Claims 47 and 58 – see the tapering external surface of the chuck 3 engaging the complementary surface of the chuck clamp 10 in Figure 3;

Claims 48 and 59 – see the chuck 3 and the spring 8a in Figures 2 and 3;

Claims 49 and 60 – see the three jaw chuck 3 and chuck clamp 10, the chuck being movable against the chuck clamp by a piston 4 (specification page 12, lines 11 to 14) and the spring 8a that biases the chuck away from the chuck clamp (specification page 9, lines 6 to 9);

Claims 50 and 61 – see specification page 13, lines 18 to 20;

Claim 51 – see the spring 8b between the pistons 4, 5;

Claim 52 – this can be deduced from the description between page 12, line 9 and page 13, line 9 of the specification. This passage describes how force is

transmitted from the piston 5 to the piston 4 to move the piston 4 against the chuck 3, so causing the chuck to move into the chuck clamp 10 (and in the process compress the spring 8a between the chuck and chuck clamp), after which the piston 5 continues to move towards the chuck compressing the spring 8b. In order for this to happen, the spring 8b between the pistons has to be stronger than the spring 8a between the chuck and chuck clamp; and

Claim 62 – see page 8, lines 15 to 22 of the specification and particularly the reference to a hydraulic pump.

No new matter has been added by any of the foregoing amendments.

Prior Art Rejections

In view of the cancellation of claim 1-41, the Examiner's rejections are moot. The amended and new claims are patentable over the cited references.

Independent claims 42 and 53 each specify a pipe flaring tool comprising: i) a tool carrier that is slideable through a tool carrier receiving aperture in a housing to bring a flaring tool into line with a die defined by a clamping device that is used to clamp an end of a pipe that is to be flared; and ii) a piston slideable in the housing for applying a force to the clamping device to cause the clamping device to clamp the pipe. The cited prior art references do not disclose, teach or remotely suggest a pipe flaring tool as specified in these claims.

Koski discloses a pipe flaring apparatus in which the pipe 11 to be flared is clamped between a pair of collets 42, 43 that are actuated by a piston 85. There is no disclosure of a tool carrier (much less a tool carrier slideable into a tool carrier receiving aperture provided in a housing). Instead, a flaring means 102 is fitted directly onto the end of a piston 95 by means of which it is driven into the end of the pipe.

Franck discloses a flaring tool comprising a pair of generally U-shaped frames that are connected at right angles to one another. One frame carries a two part die 52, 52a that is actuated by a screw 60, 61 to clamp a pipe between the die parts. The other frame carries a punch 20 by which a hammer blow is transmitted to a flaring tool 26 carried on a rotatable disc 25. The hammer blow transmitted to the flaring tool 26 drives the flaring tool into the end of a pipe held between the dies 52, 52a. Franck does not disclose or suggest a housing containing a piston that applies a force to be applied to a clamping device to cause the clamping device to clamp a pipe, much less a housing having a tool carrier receiving aperture and tool carrier that is slideable through the tool carrier receiving aperture to bring a flaring tool into line with a die defined by the clamping device.

The Examiner states that '...elongated rod 20 of the flaring means constitutes a "piston"...' and that there is a housing with a recess or opening. It is submitted that this is an incorrect assessment of what is disclosed by Franck and is not how the teaching of Franck would be understood by the person skilled in the relevant technical arts. In the first place, it is submitted that the punch 20 is not a piston. As clearly disclosed by Franck it is a punch and no more (see column 4, lines 45 to 50). As is well known to the person skilled in the relevant technical arts, a piston is a body that reciprocates in a container according to a pressure differential acting on opposite sides of the body. Once this is appreciated, it is clear that Franck also does not disclose a housing as specified in claims 42 and 53 since the housing must have at least a portion suitable for housing a piston and it is believed clear that no part of the U-shaped frames disclosed by Franck could function as a housing for a piston.

It is noted that the Examiner is of the opinion Franck shows a chuck having tapered exterior surfaces. It is submitted that this is incorrect. Franck discloses a clamping arrangement that includes two die halves 52, 52a. The dies are required to fit into spaced parallel guideways defined by opposed parallel faces 50, 50a and the die halves are described as being 'cubical' (see column 3, lines 52 to 57). There is no mention of tapered exterior faces and this is not shown in the drawings. Regarding the drawings, Figures 5, 7 and 11 support the description of the blocks as being 'cubical'.

Ehrke discloses a device for forming an end of a pipe 2. The device includes a forming tool 11 provided with an extension piece 11a and a compression tool 13 that is secured directly to the end of the extension piece 11a by means of a rotation preventing device 16. There is no disclosure or suggestion of a tool carrier slideable through a tool carrier receiving aperture in a housing.

In view of the foregoing, Applicant submits that claims 42-62 are patentable over the cited references. If any issue remains to be resolved, Applicant requests that the Examiner telephone the undersigned.

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Respectfully submitted,

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